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09/536,898	03/28/2000	Hisashi Shimizu	10417-031001	5325

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EXAMINER

LOUIE, WAI SING

ART UNIT

PAPER NUMBER

2814

DATE MAILED: 05/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/536,898

Applicant(s)

SHIMIZU ET AL.

Examiner

Wai-Sing Louie

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, line 3, it is unclear what is meant by "at least end ones"? For the purpose of examination, "at least one end" is assumed.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Huang et al. (US 5,929,474).

With regard to claim 1, Huang et al. disclose an illuminating device (col. 3, line 39 to col. 6, line 53 and fig. 6) comprising:

- A hybrid integrated circuit substrate 25 in which at least a surface is provided with insulation (col. 4, line 19 and fig. 6 & 7);
- A first electrode 11 and a second electrode 12 formed on the surface (col. 3, line 43);
- A light-emitting element (LED) 40 connected with the first and second electrode (fig. 6);
- A seal 70 which is disposed in a periphery of the substrate (col. 6, lines 19-25 and 34-36);
- A transparent substrate 73 (col. 1, line 60), which is fixed to the hybrid integrated circuit substrate via seal 70, to enclose the first and second electrodes 11 and 12 and the light-emitting element 40 within a sealed space formed between the hybrid integrated circuit substrate 25 and the transparent substrate 73.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al. (US 5,929,474).

With regard to claims 4 and 13, Huang et al. do not disclose having gas filled space between the hybrid integrated circuit substrate 25 and the transparent substrate 73. However, one with ordinary skill in the art would know that the bus wiring 11 and 12 could be deteriorated with age. However, an inert gas atmosphere would prolong the life of the bus wiring. Therefore, it would have been obvious to one with ordinary skill in the art to have inert gas filled into the sealed space in order to prolong the life of the bus wiring.

With regard to claim 5, Huang et al. disclose the seal 70, disposed in between the hybrid integrated circuit substrate 25 and the transparent substrate 73, is made of adhesive acrylic resin is a common adhesive material (col. 6, line 22), and it is insulative.

With regard to claim 6, Huang et al. disclose the OED 40 is made of organic material (col. 1, lines 31-32), which could be shaped into different shapes including a lens-like shape.

With regard to claim 7, Huang et al. disclose the OED 40 abuts the substrate 25 (fig. 6).

With regard to claims 8 and 16, Huang et al. do not disclose the OEDs 40 are arranged in a matrix array in the hybrid integrated circuit substrate at least one end could be inclined at a predetermined angle (fig. 7). This is merely a design choice.

With regard to claim 9, Huang et al. do not disclose the seal 70 is made of a glossy material, which reflects light. However, if the seal 70 could be made of acrylic resin disclosed in claim 5, the acrylic resin could be glossy and reflective. Therefore, it is obvious a glossy material could be selected for seal 70 to reflect light toward the top surface.

With regard to claims 10-12, Huang et al. have been modified in claim 2 to have an inert gas filled into the seal space. Therefore it is obvious to have a filling hole and exhausting hole for the inert gas. The seal of the filling and exhausting holes can be made of brazing material, which is merely a design choice.

With regard to claims 14 and 15, Huang et al. disclose the substrate 73 is made of glass (col. 1, lines 60-61). It is common to use solder resist to cover the area that do not need solder. This is a glass substrate and, therefore, it is obvious to use solder resist so that light could transmit through the substrate.

With regard to claim 17, in addition to the limitation disclosed in claim 1, Huang et al. also disclose:

- The first electrode 11 and second electrode 12 are formed on a region of the surface of the hybrid integrated circuit substrate, but Huang et al. do not disclose the first electrode is made of copper with an oxidation resistant metal. Huang et al. disclose using gold and silver as contacts in the device (col. 3, line 38 and col. 6, line 2). One with ordinary skill in the art would use copper or aluminum as electrode, which is a cheaper material. However, copper is easily oxidized and an oxidization resistant metal may be used to coat the electrode such as plastic or noble metals. Therefore, it is obvious to coat the copper to prevent oxidation.
- A rear face of the light emitting element is electrical connected to the first electrode (fig. 1 & 2);
- An electrical connection 19 between the second electrode 12 and an electrode on a surface of the LED (fig. 1 & 3).

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With regard to claim 18, in addition to the limitation disclosed in claims 17 above, Huang et al. also disclose:

- An electrical connection 20 between the second electrode 11 and an electrode on a surface of the LED (fig. 1 & 5).

### ***Response to Arguments***

Applicant's arguments filed 1/23/02 have been fully considered but they are not persuasive.

The references Nagane et al. (US 5,430,484) and Lin (US 5,886,401) are no longer used in the office action. The arguments are moot.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wai-Sing Louie whose telephone number is (703) 305-0474. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (703) 306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

  
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April 30, 2002

  
OLIK CHAUDHURI  
SUPERVISORY PATENT EXAMINER  
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